IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: **Satoru NEMOTO et al.** Art Unit: **1795**

Application Number: **10/564,445** Examiner: **Magali P. Slawski**

Filed: **August 17, 2006** Confirmation Number: **7483**

For: **METHOD AND DEVICE FOR FORCIBLY INSERTING DROP INTO COMPRESSION MOLDING MACHINE, AND MOLDING DIE FOLLOW-UP TYPE METHOD AND DEVICE FOR SUPPLYING DROP**

Attorney Docket Number: **062007**
Customer Number: **38834**

SUBMISSION OF APPEAL BRIEF

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January 10, 2011

Sir:

Applicants submit herewith an Appeal Brief in the above-identified U.S. patent application.

Attached please find a check in the amount of $540.00 to cover the cost for the Appeal Brief. If any additional fees are due in connection with this submission, please charge Deposit Account No. 50-2866.

Respectfully submitted,

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SK/kn

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
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APPEAL BRIEF FOR THE APPELLANT

Ex parte Satoru NEMOTO et al. (Appellants)

METHOD AND DEVICE FOR FORCIBLY INSERTING DROP INTO COMPRESSION MOLDING MACHINE, AND MOLDING DIE FOLLOW-UP TYPE METHOD AND DEVICE FOR SUPPLYING DROP

Application Number: **10/564,445**

Filed: **August 17, 2006**

Appeal No.: **Not Yet Assigned**

Art Unit: **1795**

Examiner: **Magali P. Slawski**

Submitted by:
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January 10, 2011

BRIEF ON APPEAL

(I) REAL PARTY IN INTEREST

The real party in interest is **TOYO SEIKAN KAISHA, LTD.**, by an assignment recorded in the U. S. Patent and Trademark Office on **August 17, 2006**, at Reel **018128**, Frame **0804**.

(II) RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to appellants, appellants' legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(III) STATUS OF CLAIMS

Claims 1-19 are pending in the application. Claims 2, 5-6 and 9-19 are rejected and all the rejected claims are appealed. Claim 1, 3-4 and 7-8 were withdrawn from consideration. The appealed claims appear in the Claims Appendix.

(IV) STATUS OF AMENDMENTS

No amendments have been filed subsequent to the close of prosecution.

(V) SUMMARY OF THE INVENTION

The present invention relates to a method for supplying molding materials (drops, i.e., lumps of the molten synthetic resin) into molding dies continuously in a compression molding machine for synthetic resin, and more specifically, the present invention relates to a method for supplying drops in order to continuously, accurately and rapidly supply molten drops extruded from an extrusion die head into female concaves of a compression molding machine when preforms for molding synthetic resin containers, etc. are molded continuously by a rotary-type compression molding machine. (Page 1, lines 7-16).

In the blow molding device for molding preforms into synthetic resin containers, it is important to rapidly and accurately supply molten drops from an extrusion die head into the female concaves in a compression molding machine which rotate in rotary-type material supply by extrusion molding and a rotary-type compression molding machine. (Page 3, line 27 to page 4, line 9).

In the molding devices using rotary-type material supply, when the difference between the maximum external diameter of the drops and the inner diameter of the female concaves is relatively small or when the moving rate of drop-holding mechanism is raised, drops may be displaced from the required positions in the female concaves and fall from there. The present inventors conceived that the drops can be inserted accurately when the drops are dropped in the overlapped paths. The present inventors found that it is very effective to make the movement of the holding mechanism follow that of the female mold by overlapping these paths of rotation in order to accurately and rapidly insert the drops. Accurate insertion is realized at the time point

where the position of the holding mechanism overlaps with that of the female mold in the rotational path of the holding mechanism, and the movement of the holding mechanism is made to follow. The drops are accurately inserted even if time lag occurs regarding the positions of the holding mechanism and the female mold on the overlapping rotation paths. (Page 5, last 2 lines to page 6, line 27).

According to the method of supplying a drop to a compression molding machine of the present invention as recited in claim 2, a molding die moves along a first path, and a holding mechanism moves along a second path. The first path and the second path make a following zone extending in a plain view where the first path and the second path substantially overlap. The movement of the molding die and the movement of the holding mechanism are synchronized in the following zone. The drop is carried by the holding mechanism to the following zone, and the drop is transferred from the holding mechanism to the molding die in the following zone. (Claim 2, Fig. 4).

(VI) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 2, 5-6 and 9-19 are rejected under 35 U.S.C. 112, first paragraph for allegedly failing to comply with the written description requirement.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph for allegedly being indefinite.

Claims 2, 5-6, 10 and 19 are rejected under 35 U.S.C. 102(b) for allegedly being anticipated by Saito et al. (US 2002/0088767 A1).

Claims 9 and 11 are rejected under 35 U.S.C. 103(a) for allegedly being obvious over Saito and further in view of Winter et al. (U.S. Patent No. 6,152,723).

Claim 12 is rejected under 35 U.S.C. 103(a) for allegedly being obvious over Saito in view of Winter, and further in view of Suzuki et al. (U.S. Patent 4,312,437).

Claim 13/11 is rejected under 35 U.S.C. 103(a) for allegedly being obvious over Saito in view of Winter, and further in view of Choinski (US 2002/0093126 Al).

Claim 13/12 is rejected under 35 U.S.C. 103(a) for allegedly being obvious over Saito in view of Winter and Suzuki, and further in view of Choinski.

Claim 14 is rejected under 35 U.S.C. 103(a) for allegedly being obvious over Saito, and further in view of Vogel et al. (U.S. Patent No. 6,514,448 B1).

Claim 15 is rejected under 35 U.S.C. 103(a) for allegedly being obvious over Saito in view of Vogel, and further in view of Zoppas (U.S. Patent No. 6,422,379 B1).

Claim 16 is rejected under 35 U.S.C. 103(a) for allegedly being obvious over Saito in view of Vogel, and further in view of Winter and Choinski.

Claim 18 is rejected under 35 U.S.C. 103(a) for allegedly being obvious over Saito.

(VII) ARGUMENT

1. Claims 2, 5-6 And 9-19 Are Not Failing To Comply With The Written Description Requirement Under 35 U.S.C. 112, First Paragraph.

In the Final Offic Action, the Examiner alleged as follows:

> Amended claims 2, 10-1 1, 13-14 and 16-18 recite a "following area" where the paths of the holding mechanism and the molding die "substantially overlap." While the examiner sees the overlap in figure 4, the examiner could not find support in the specification for the concept of a following area. Figure 4 has labeled "following zone" (emphasis added) with a double arrow, but that zone is not bounded and it is not at all clear that "following zone" coincides or even includes the a place of overlap between the two paths.

(Office Action of 12/11/2009, page 2, lines 16-22). The 112 first paragraph rejections of claims 2 and 13 have been withdrawn in the Advisory Action.

Regarding claim 15, the Examiner alleged as follows:

> Amended claim 15 recites that "the holding mechanism is supported by an extension means provided on a conveying media between two circular paths." The examiner could not find any language relating the conveying media's position to two circular paths, nor could the examiner find this in a drawing.

(Office Action of 12/11/2009, page 3, lines 6-9). However, the present specification sufficiently describes on the recitation. Referring to Fig. 8, the present specification describes as follows:

> It is a method or device for supplying a drop in molding die follow-up manner; wherein the holding mechanism on the rotary-and movable type drop supply is supported by the fixing member which is moved by horizontal rotation on the path around the eccentric circle, the rotary moving path is controlled to overlap with the rotation path of the molding die by the controlling guide within a determined area in which the fixing member approaches the rotating molding die, thereby the path is preferably deformed so that the rotation path of the holding mechanism overlaps with circular arch shape of the rotation path of

> the molding die and the rotation path of the holding mechanism is made to overlap with that of the molding die completely to make the movement of the holding mechanism follow that of the molding die completely or to make the movement of the molding die the follow that of holding mechanism completely.
>
> Specifically, it is adopted as a system, wherein the rotary type **holding mechanism** is supported by **extending and shortening means** provided on a media such as a belt and a chain in a wrapping driving device such as a belt driving device and a chain driving device, at least a part of the circular path whose concentric circle is the same as the circular path on which the movable molding die traces is comprised in the path on which the media traces, and thereby the path of the **holding mechanism** overlaps or nearly overlaps with that of the molding die in a range of the circular path of the concentric circle.
>
> The circular path whose concentric circle is the same as that of movable molding die on which the media traces can be defined by the controlling guide in circular arch form placed **between a belt pulley and a sprocket wheel** or the like of the wrapping driving device.

(page 37, line 23 to page 38, line 22). In Fig. 8, "the first path" is a circular path, and the holding mechanism is supported by an extending means provided on a conveying media between two circular paths with the control guide. Thus, the recitation "the holding mechanism is supported by an extending means provided on a conveying media between two circular paths" has a support in the specification.

In response, the Examiner alleged as follows:

> Applicant argues against the rejection by quoting two dozen lines of the specification, indicating figure 8, stating that "the first path" is a circular path and then repeating the claim language. In response to Applicant's argument, the examiner still does not see how the extension means is between two circular paths. Applicant has not indicated what **second circular path** is, what the conveying media is or how the conveying media sits between the two paths.

(Advisory Action of 07/16/2010, emphasis added). However, "second circular path" does not appear in the claims or in the specification. The term "second path" typically appears in claim 2.

The "conveying media" is means to covey the holding mechanism. As shown in Fig. 8, the conveying media is provided around outer peripheries of the two circles and extending portion between two circular paths

2. Claim 15 Is Not Indefinite Under 35 U.S.C. 112, Second Paragraph.

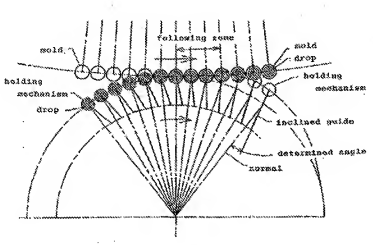
The Examiner alleged as follows:

> Amended claim 15 recites that "the holding mechanism is supported by an extension means provided on a conveying media between two circular paths." It is not at all clear what is meant by this. There appear to be only two circular paths in the disclosure, the second of which is assigned in claim 2 to the holding mechanism. Figure 2 shows that the two circular paths overlap. It is not clear how the conveying media that supports the holding mechanism can be between the two circular paths.

(Office Action of 12/11/2009, page 3, lines 16-22).

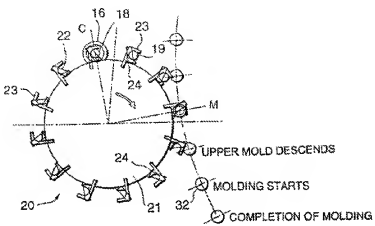
As discussed above, the recitations in claim 15 are based on the structure in Fig. 8. Although claim 15 should not be limited to the particular structure shown in Fig. 8, what claim 15 is meant would be clear to a person of ordinary skill in the art, when claim 15 is read with Fig. 8 in mind.

3. Claims 2, 5-6, 10 And 19 Are Not Being Anticipated By Saito et al. (US 2002/0088767 A1) Henceforth Saito Under 35 U.S.C. 102(b).



Claim 2 recites "making a following zone extending in a plain view where the first path and the second path substantially overlap." Thus, the invention has the specific feature of defining the overlapping path of the rotating holding mechanisms and the rotating dies so that synchronism and an accurate drop insertion can be timely achieved . For example, when the rotation path of the moving molding die is a circular path, the holding mechanism can be elastic and perform the rotation within a radius of rotation with elasticity.

FIG.9



As shown in Fig. 9 of Saito et al., the path of the grip member 23 and the path of the molding die are in merely **tangential** relation. Thus, Saito et al. does not teach or suggest "making a following zone extending in a plain view where the first path and the second path **substantially overlap**."

Also, because Saito et al. does not teach or suggest the "following zone," it also does not teach or suggest "synchronizing the movement of the molding die and the movement of the holding mechanism **in the following zone**; carrying the drop by the holding mechanism **to the following zone**; and transferring the drop from the holding mechanism to the molding die **in the following zone**."

In the Advisory Action, the Examiner alleged as follows:

> Regarding the amendment of claim 2 and its dependents to replace the phrase "following area" with "following zone extending in plain view," while this amendment links the claim language to the specification, it does not further limit the claim in a way that would require new grounds of rejection. An area is zone. "In plain view" adds no further information or definition to the claims.
>
> Regarding the 102(b) rejection of claim 2 with Saito et al. (US 200210088767 Al), henceforth Saito, Saito's paths overlap enough for

> member 23 to release the drop into the molding die, and this overlap is visible in figure 9. It is a substantial overlap. The following zone surrounds and includes the site of overlap. Applicant has not yet claimed any specific spatial relationship to either define the following zone or the placement of parts to distinguish it from Saito's teachings.

(Advisory Action of 07/16/2010, emphasis added).

However, the recitation "making a following zone extending in a plain view where the first path and the second path **substantially overlap**" sufficiently distinguish over Sato. In Sato, there is only an **overlapping point** which does not extend. Sato does not teach or suggest "a **following zone extending in a plain view** where the first path and the second path substantially overlap."

For at least these reasons, claim 2 patentably distinguishes over Saito et al. Claims 5, 6, 10 and 19, depending from claim 2, also patentably distinguish over Saito et al. for at least the same reasons.

4. Claims 9 And 11 Are Not Obvious Over Saito And Further In View Of Winter et al. (U.S. Patent No. 6,152,723) Under 35 U.S.C. 103(a).

Claims 9 and 11 directly depend from claim 2. The reference, Winter et al. is not cited for disclosing the "following zone" and they do not disclose the "following zone." Thus, these references do not remedy the deficiencies of Saito et al. discussed above.

For at least these reasons, claim 9 and 11 patentably distinguish over Saito and Winter et al.

5. Claim 12 Is Not Obvious Over Saito In View Of Winter, And Further In View Of Suzuki et al. (U.S. Patent 4,312,437) Under 35 U.S.C. 103(a).

Claim 12 indirectly depends from claim 2. The references, Winter et al. and Suzuki et al are not cited for disclosing the "following zone" and they do not disclose the "following zone." Thus, these references do not remedy the deficiencies of Saito et al. discussed above.

For at least these reasons, claim 12 patentably distinguishes over Saito, Winter et al., and Suzuki et al.

6. Claim 13/11 Is Not Obvious Over Saito In View Of Winter, And Further In View Of Choinski (US 2002/0093126 Al) Under 35 U.S.C. 103(a).

Claims 13/11 indirectly depends from claim 2. The references Winter et al., Suzuki et al., and Choinski are not cited for disclosing the "following zone" and they do not disclose the "following zone." Thus, these references do not remedy the deficiencies of Saito et al. discussed above.

For at least these reasons, claim 13/11 patentably distinguishes over Saito, Ingram, Winter et al., Suzuki et al., Choinski.

7. Claim 13/12 Is Not Obvious Over Saito In View Of Winter And Suzuki, And Further In View Of Choinski Under 35 U.S.C. 103(a).

Claim 13/12 was cancelled in the preliminary amendment of January, 2006. Therefore, the rejection is moot.

8. Claim 14 Is Not Obvious Over Saito, And Further In View Of Vogel et al. (U.S. Patent No. 6,514,448 B1) Under 35 U.S.C. 103(a).

Claim 14 depends from claim 2. The reference, Vogel et al. is not cited for disclosing the "following zone" and they do not disclose the "following zone." Thus, these references do not remedy the deficiencies of Saito et al. discussed above.

For at least these reasons, claim 14 patentably distinguishes over Saito and Vogel et al.

9. Claim 15 Is Not Obvious Over Saito In View Of Vogel, And Further In View Of Zoppas (U.S. Patent No. 6,422,379 B1) Under 35 U.S.C. 103(a).

Claim 15 depends from claim 11. The reference Zoppas is not cited for disclosing the "following zone" and they do not disclose the "following zone." Thus, these references do not remedy the deficiencies of Saito et al. discussed above.

For at least these reasons, claim 15 patentably distinguishes over Saito, Vogel et al., and Zoppas.

10. Claim 16 Is Not Obvious Over Saito In View Of Vogel, And Further In View Of Winter And Choinski Under 35 U.S.C. 103(a).

Claims 9, 11-16 and 18 directly or indirectly depend from claim 2. The references, Ingram, Winter et al., Suzuki et al., Choinski, Vogel et al., and Zoppas are not cited for disclosing the "following zone" and they do not disclose the "following zone." Thus, these references do not remedy the deficiencies of Saito et al. discussed above.

For at least these reasons, claim 9, 11-16 and 18 patentably distinguish over Saito, Ingram, Winter et al., Suzuki et al., Choinski, Vogel et al., Zoppas.

11. Claim 18 Is Not Obvious Over Saito Under 35 U.S.C. 103(a).

Claim 18 depends from claim 2.

For at least the same reasons as discussed on claim 2, claim 18 patentably distinguishes over Saito.

(VIII) CONCLUSION

For the foregoing reasons, the Examiner has failed to establish a prima facie case of obviousness in the rejection of the present claims. The Honorable Board is respectfully requested to reverse the rejection of the Examiner.

If this paper is not timely filed, appellants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to Deposit Account No. 50-2866, along with any other additional fees that may be required with respect to this paper.

Respectfully submitted,

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Enclosures: Claims Appendix
Evidence Appendix
Related Proceedings Appendix

(IX) CLAIMS APPENDIX

1. (Withdrawn): A method for forcibly inserting a drop of a molding material into a concave of a molding female die in a compression molding machine, wherein a molten synthetic resin extruded from an extrusion opening formed at the edge of an extrusion die head is formed into a determined quantity of the drop by holding and then cutting or cutting and then holding by a holding mechanism and a cutter placed at a synthetic resin accepting position which opposes to the extrusion die head, the drop is held and conveyed by the holding mechanism, and the drop held at a discharging position on a molding female die is forcibly inserted and fed into the concave of a molding female die while the holding is released.

2. (Rejected): A method of supplying a drop to a compression molding machine comprising:

moving a molding die along a first path;

moving a holding mechanism along a second path,

making a following zone extending in a plain view where the first path and the second path substantially overlap;

synchronizing the movement of the molding die and the movement of the holding mechanism in the following zone;

carrying the drop by the holding mechanism to the following zone; and

transferring the drop from the holding mechanism to the molding die in the following zone.

3. (Withdrawn): A device for forcibly inserting a drop of a molding material into a concave of a molding female die in a compression molding machine, which comprises following means: an extruding means for extruding a synthetic resin molding material which forms it into soften and molten condition by heating plasticization, an extrusion opening formed at the edge of an extrusion die head attached to the extruding means, a holding mechanism formed at a synthetic resin accepting position opposing to the extrusion die head, for holding the molten synthetic resin extruded from the extrusion opening, a cutter for cutting the synthetic resin into a determined quantity of the drop, and a supplying means for conveying the drop into a discharging position provided on the molding female die and the held drop is forcibly inserted into the concave of the molding female die with releasing the holding.

4. (Withdrawn): A device for continuously supplying a drop of a molding material into a moving molding die in a compression molding machine which is a device for supplying a drop in molding die follow-up manner, wherein a holding mechanism on a rotary-and movable type drop supply is made to approach the rotating molding die and the rotation path of the holding mechanism is made to overlap or nearly overlap with that of the molding die within a determined area and the movement of the holding mechanism is made to follow that of the molding die, or the movement of the molding die is made to follow that of the holding mechanism, and the holding of the drop held and conveyed by the holding mechanism is released on the overlapped

or nearly overlapped paths of rotation, to insert and supply the drop into the concave of the molding female die.

5. (Rejected): The method of supplying a drop according to claim 2, wherein, in the transferring step, the drop released from the holding mechanism is forcibly inserted into the concave of the molding die.

6. (Rejected): The method of supplying a drop according to claim 2, wherein a plurality of holding mechanisms is used, the first path is a rotary path, and the compression molding has a plurality of the molding dies.

7. (Withdrawn): The method or device for forcibly inserting a drop into a concave of a female mold according to claim 1 or 3, wherein the method for forcibly inserting the drop into the concave of the female mold is a forcible method for dropping in which the holding mechanism to hold the drop is lowered at accelerating speed or at a constant speed by inertia.

8. (Withdrawn) The method or device for forcibly inserting a drop into a concave of a female mold according to claim 7, wherein a lift block is provided for lowering the holding mechanism to hold the drop at accelerating speed or at a constant speed by inertia.

9. (Rejected): The method of supplying a drop in molding die follow-up manner according to claim 2, wherein the first path is a circular path and the second path is a circular path with a variable radius.

10. (Rejected): The method of supplying a drop in molding die follow-up manner according to claim 2, wherein the second path is a circular path, and the holding mechanism is tilted to a normal line of the circular path so that the second path substantially overlaps the first path within the following zone.

11. (Rejected): The method of supplying a drop in molding die follow-up manner according to claim 10, wherein the holding mechanism moves along a guide by a cam provided outside and a cam follower integrated with the holding mechanism, the rotation path of the holding mechanism is made to substantially overlap the first path of the molding die within the following zone.

12. (Rejected) The method of supplying a drop in molding die follow-up manner according to claim 11, wherein the holding mechanism further follows the position of the molding die by oscillation when the holding mechanism is made to approach the rotating molding die.

13. (Rejected): The method of supplying a drop according to claim 11, wherein the holding mechanism is supported by a support, the support is biased outward with respect to a wheel on which the holding mechanism is attached, the cam follower abutting on the cam is set so that the holding mechanism does not move outward from the position, the support moves along the guide whose angle is varied to set at a specific angle toward the normal line so that, while the support moves along the guide, the holding mechanism abuts the die as appropriate and approaches the molding die to make the second path of the holding mechanism substantially overlap the first path of the molding die within following zone.

14. (Rejected): The method of supplying a drop in molding die follow-up manner according to claim 2, wherein the holding mechanism is supported by a fixing member moved on the second path around the eccentric circle, a moving path of the fixing member is controlled by a controlling guide provided on the path of the fixing member or the cam within the following zone.

15. (Rejected): The method of supplying a drop according to claim 14, wherein the first path is a circular path, and the holding mechanism is supported by an extending means provided on a conveying media between two circular paths, the second path of the holding mechanism substantially overlaps the first path of the molding die making a circular path concentric with the circular path traced by the molding die.

16. (Rejected): The method of supplying a drop according to claim 15, wherein the holding mechanism is supported by a support, the support is biased outward with respect to a wheel on which the holding mechanism is attached, the cam follower abutting on the cam is set so that the holding mechanism does not move outward from the position, the support moves along the guide, the support moves along the guide, while the support approaches the rotating molding die, the rotation path of the holding mechanism substantially overlap the first path of the molding die within the following zone.

17. (Rejected): The method of supplying a drop according to claim 14, wherein the path around the eccentric circle is a path formed by vertical or horizontal rotation.

18. (Rejected): The method of supplying a drop in molding die follow-up manner according to claim 2, wherein control is performed to adjust the moving rate of the holding mechanism to that of the molding die in the following zone.

19. (Rejected): The method of supplying a drop into a molding die according to claim 2, wherein the molding which is molded in the compression molding machine is a preform.

(X) EVIDENCE APPENDIX

None Presented.

(XI) RELATED PROCEEDINGS APPENDIX

No related proceedings.